state of the so-called B stage.

As described above, although there is a difference depending on the characteristics of the thermosetting resin in the thermosetting adhesive 6b when the anisotropic conductive film forming thermosetting adhesive 6b is semi-solidified, pressurization is effected at a temperature of 80 to 130°C, which is 30 to 80% of the glass transition point of the thermosetting resin. The pressurization is normally performed at a temperature of about 30% of the glass transition point of the thermosetting resin. The reason why the temperature is 30 to 80% of the glass transition point of the thermosetting resin is that a further range for reaction can still sufficiently be left in the subsequent processes within the range of 80 to 130°C according to the graph of the heating temperature of the anisotropic conductive film sheet with respect to its reaction rate of Fig. 19. In other words, the reaction rate of the insulating resin, or for example, the epoxy resin can be restrained to about 10 to 50%, also depending on time, within the temperature range of 80 to 130°C, and therefore, no problem occurs at the time of IC chip pressure bonding in the subsequent processes. That is, the prescribed quantity of pressure can be secured at the time of pressure-bonding the IC chip, and this scarcely incur the problem that the press-cutting cannot be achieved.

It is also possible to perform the semi-solidification by vaporizing only the solvent component while restraining the reaction.

When a plurality of IC chips 1 are mounted on the board 4 after the thermosetting adhesive 6b is semi-solidified as described above, the productivity is further improved by preliminarily performing the semi-solidifying process of the thermosetting adhesive 6b as a pre-arranging process in a plurality of portions which belong to the board 4 and in which the plurality of IC chips 1 are mounted, supplying the thus pre-arranged board 4, and bonding the plurality of IC chips 1 to the plurality of portions of the board 4. In the subsequent processes, even when the thermosetting adhesive 6b is used, the process identical to the process employing the anisotropic conductive film sheet 10 of the aforementioned first or second embodiment is basically performed. By adding the semi-solidifying process, the liquid anisotropic conductive film forming thermosetting adhesive 6b can be employed similarly to the anisotropic conductive film sheet 10, and this arrangement has the advantage that the handling is easy because of the solidness and the advantage that an adhesive having a high glass transition point can be formed since the adhesive can be formed of polymer because of the non-existence of a liquid component. When the anisotropic

conductive film forming thermosetting adhesive 6b having fluidity is employed as described above, there is the coexistent advantage that the adhesive can be applied or printed or transferred in an arbitrary size to arbitrary positions of the board 4 by comparison with the case where the solid anisotropic conductive film sheet 10 is employed.

(Fourth Embodiment)

A method and apparatus for mounting an electronic component of, for example, an IC chip on a circuit board and an electronic component unit or module of, for example, a semiconductor device in which the IC chip is mounted on the board by the mounting method, according to a fourth embodiment of the present invention will be described next with reference to Fig. 22. The fourth embodiment differs from the first embodiment in that the bump tip is shaped so as to prevent the short circuit with adjacent bumps or electrodes due to the collapse of a neck (whisker) portion at the tip of the bump 3 caused by the tearing-off at the time of bump formation by pressurizing the bump 3 with a load of not greater than 20 gf at need without leveling the bump 3 with supersonic waves applied in addition to the load when the IC chip 1 is bonded to the board 4, the IC chip 1 is thereafter mounted on the board 4 while aligning in position the IC chip 1 with the board 4, and the metal bumps 3 are subjected to thermocompression-bonding with